

**ELECTRONICS
MECHANIC
WG-2604-10**

**UTILITIES
ELECTRICAL**

I. POSITION AND ORGANIZATION INFORMATION**Position:**

Electronics Mechanic, WG-2604-10

Purpose of position:

The purpose of this job is to fabricate, overhaul, modify, install, troubleshoot, repair, and maintain electronic equipment.

Organization:

Utility Operations Branch

Organization goals:**II. MAJOR DUTIES****A. Duty (Critical):**

Installs, modifies, overhauls, maintains, troubleshoots, and repairs electronics equipment of moderate complexity with regard to design, construction, and function. Electronic equipment serviced is usually self-contained and functionally independent and covers items such as signal generators; microphones, speakers and amplifiers; break-out boxes for missile guidance sets; multichannel very high frequency (VHF) transmitters or receivers; ultra high frequency (UHF) ground to air or HF tactical two-way radios and consoles in combat vehicles or rotary wing aircraft; power supplies; multilayered printed circuit boards; and other similar types of electronic systems. Sets up and operates computer controlled automatic test equipment (ATE) to test and troubleshoot various components and assemblies of electronic equipment. (100%)

Tasks:

1. Works from manufacturers' specifications, schematics, block diagrams, and technical orders to determine the operation of circuits, to locate points from which to take readings, and to analyze the schematic layout.
2. Makes preliminary visual inspections and performs operational tests to determine components causing malfunctions or invalid readings.
3. Makes required repairs by replacing damaged, missing, burnt or faulty items such as printed circuit cards; and transistors, diodes, resistors, etc., using the latest techniques in microsoldering.
4. Uses a variety of test equipment such as oscilloscopes, pulse and signal generators, distortion and waveform analyzers, digital data generators, digital volt meters, frequency and pulse counters, and special test panels.
5. Sets up and operates computer controlled automatic test equipment (ATE).
6. Evaluates fault reports to determine if item should be returned to repair section or if repair or adjustment can be made so testing can continue.

Selected Staffing KSAs:

A1, A2, A3, A4, A5, A6, A7, A8, A9, A10

B. Other Work Requirements

1. The employee may be required to work overtime on an emergency basis.
2. The employee may be recalled to duty.
3. This position requires the employee to drive a motor vehicle. An appropriate, valid driver's license is required for the position.

~~**III. KNOWLEDGE, SKILLS AND ABILITIES (KSAs)**~~**A. Selected Staffing KSAs:**

1. Ability to do the work of the position without more than normal supervision
2. Knowledge of equipment assembly, installation, and repair
3. Ability to follow appropriate work practices including keeping a tidy, clean, and orderly work area
4. Ability to instruct others
5. Ability to use electronic test equipment
6. Knowledge of electronic theory
7. Ability to read electrical circuit diagrams, blueprints, and schematics
8. Ability to use hand and power tools for electronics work
9. Ability to suggest and apply new methods to the work being performed
10. Ability to troubleshoot electronic equipment

B. Basic Training Competencies:

1. Ability to do the work of the position without more than normal supervision
2. Knowledge of equipment assembly, installation, and repair
3. Ability to follow appropriate work practices including keeping a tidy, clean, and orderly work area
4. Ability to instruct others
5. Ability to use electronic test equipment
6. Knowledge of electronic theory
7. Ability to read electrical circuit diagrams, blueprints, and schematics
8. Ability to use hand and power tools for electronics work
9. Ability to suggest and apply new methods to the work being performed
10. Ability to troubleshoot electronic equipment

IV. CLASSIFICATION FACTORS**Factor 1. Knowledge**

1. - Knowledge of customary trade practices for repair of functionally independent electronic equipment.
2. - Skill in reading and applying blueprints, schematics and wiring diagrams to work assignments involving functionally independent, stand-alone units.
3. - Knowledge of general electronic theory including, properties of solid state circuitry.

4. - Knowledge of electronic equipment in order to make repairs and modifications to functionally independent electronic equipment, and to conduct standard tests.
 5. - Skill in using standard test equipment and automated test equipment when testing functionally independent, stand-alone units.
 6. - Knowledge of standard troubleshooting techniques in order to troubleshoot functionally independent stand-alone units.
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Factor 2. Responsibility

Employee receives work assignments from a supervisor or higher level employee in the form of oral instructions or written work orders. Employee independently determines nature of trouble, repairs required, and work sequences, and selects test instruments, locates malfunctions and completes repairs. Repairs do not normally require adjustments and alignments of other related equipment, as employee typically works on functionally independent, stand-alone units. Technical data, often in form of technical manuals (commercial and military) apply to most testing, troubleshooting and repair work. Completed work is reviewed for adherence to established safety, environmental and quality standards or best commercial practices, guides and instructions.

Factor 3. Physical Effort

Light to moderate physical effort is required. Employee frequently lifts and carries up to 40 pounds. May occasionally lift heavier items with assistance. Work requires sitting, standing, stooping, bending, crouching, reaching, and working in cramped or awkward positions. Occasionally work in high places may be required. Must be able to distinguish colors and shades of colors to distinguish color codes.

Factor 4. Working Conditions

Work is usually performed in well lighted, heated and ventilated areas. Employee may be subject to injuries, such as electrical shock, cuts, bruises and burns. Work may be performed inside aircraft, on ships, in high places, or outside in inclement weather.

V. CLASSIFICATION SUMMARY

In this position:

Duty A. 100% WG-2604-10 Electronics Mechanic
Repair/Maintenance/Troubleshooting (Ground Systems)

The classification criteria as based on the U.S. Office of Personnel
Management (OPM) Position Classification Standard (PCS) for Electronics
Mechanic, WG-2604, HBPD-4, Dec 1997.

Grade: WG-10